SEQUENCE LISTING

<110> DIVERSA CORPORATION
SHORT, Jay M.
MATHUR, Eric J.
LAM, David E.

<120> ENZYMES HAVING CARBOXYMETHYL CELLULASE ACTIVITY AND METHODS OF USE THEREOF

<130> DIVER1110-4

<140> US 09/880,729
<141> 2001-06-12

<150> US 09/472,857
<151> 1999-12-27

<150> US 08/951,889
<151> 1997-10-16

<150> US 08/518,615
<151> 1995-08-23

<160> 4

<170> PatentIn version 3.1

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<212> DNA
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cgttataaag actatcccga aactctattt tttgaaattc tgaatgaacc tcacggaaat 420

cttactccgg aaaaatggaa tgaactgctt gaggaagctc taaaagttat aagatcaatt 480

gacaaaaagc acactataat tataggcaca gctgaatggg ggggtatatc tgcccttgaa 540

aaactgtctg tcccaaaatg ggaaaaaaat tctatagtta caattcacta ctacaatcct 600

ttcgaattta cccatcaagg agctgagtgg gtggaaggat ctgagaaatg gttgggaaga 660

aagtggggat ctccagatga tcagaaacat ttgatagaag aattcaattt tatagaagaa 720

tggtcaaaaa agaacaaaag accaatttac ataggtgagt ttggtgccta cagaaaagct 780

gaccttgaat caagaataaa atggacctcc tttgtcgttc gcgaaatgga gaaaaggaga 840

tggagctggg catactggga attttgttcc ggttttggtg tttatgatac tctgagaaaa 900

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<223> Deduced amino acid sequence encoded by SEQ ID NO:1

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Asn Ile Gly Asn Ala Leu Glu Ala Pro Asn Glu Gly Asp Trp Gly Val
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Val Ile Lys Asp Glu Phe Phe Asp Ile Ile Lys Glu Ala Gly Phe Ser
35 40 45

His Val Arg Ile Pro Ile Arg Trp Ser Thr His Ala Tyr Ala Phe Pro
50 55 60

Pro Tyr Lys Ile Met Asp Arg Phe Phe Lys Arg Val Asp Glu Val Ile
65 70 75 80

Asn Gly Ala Leu Lys Arg Gly Leu Ala Val Ala Ile Asn Ile His His
85 90 95

Tyr Glu Glu Leu Met Asn Asp Pro Glu Glu His Lys Glu Arg Phe Leu
100 105 110

Ala Leu Trp Lys Gln Ile Ala Asp Arg Tyr Lys Asp Tyr Pro Glu Thr
115 120 125

Leu Phe Phe Glu Ile Leu Asn Glu Pro His Gly Asn Leu Thr Pro Glu
130 135 140

Lys Trp Asn Glu Leu Leu Glu Glu Ala Leu Lys Val Ile Arg Ser Ile
145 150 155 160

Asp Lys Lys His Thr Ile Ile Ile Gly Thr Ala Glu Trp Gly Gly Ile
165 170 175

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Ser Ala Leu Glu Lys Leu Ser Val Pro Lys Trp Glu Lys Asn Ser Ile
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Val Thr Ile His Tyr Tyr Asn Pro Phe Glu Phe Thr His Gln Gly Ala
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Glu Trp Val Glu Gly Ser Glu Lys Trp Leu Gly Arg Lys Trp Gly Ser
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Pro Asp Asp Gln Lys His Leu Ile Glu Glu Phe Asn Phe Ile Glu Glu
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Trp Ser Lys Lys Asn Lys Arg Pro Ile Tyr Ile Gly Glu Phe Gly Ala
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Tyr Arg Lys Ala Asp Leu Glu Ser Arg Ile Lys Trp Thr Ser Phe Val
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Val Arg Glu Met Glu Lys Arg Arg Trp Ser Trp Ala Tyr Trp Glu Phe
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Cys Ser Gly Phe Gly Val Tyr Asp Thr Leu Arg Lys Thr Trp Asn Lys
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